Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Expanding Flexible Use of the 12.2-12.7 GHz Band	)	WT Docket No. 20-443
	)	
	)	
Expanding Flexible Use in Mid-Band Spectrum Between 3.7-24 GHz	)	GN Docket No. 17-183
	)	
	)	

COMMENTS OF AT&T SERVICES, INC.

I. INTRODUCTION & SUMMARY.

AT&T Services, Inc. ("AT&T"), on behalf of DIRECTV Enterprises, LLC ("DIRECTV") and its other affiliates, submits these comments on the Federal Communications Commission's ("Commission" or "FCC") Notice of Proposed Rulemaking ("NPRM") in the above-referenced proceeding, which seeks comment on the efficient use of the 12.2-12.7 GHz ("12 GHz") band.[1] The Commission has correctly recognized that its actions in this proceeding must cause no harm to incumbent, primary Direct Broadcast Satellite ("DBS") services and their customers.[2] AT&T agrees that the protection of DBS services must be the guiding star of this proceeding.

---

[1] *Expanding Flexible Use of the 12.2-12.7 GHz Band, et al.*, Notice of Proposed Rulemaking, 36 FCC Rcd 606 (2021) ("12 GHz NPRM"). Although the Commission has styled this item as a Notice of Proposed Rulemaking, it is more properly construed as a Notice of Inquiry and should be treated as such legally. The Commission has proposed no rules, and it would be inconsistent with the Administrative Procedures Act for the Commission to issue new rules at this juncture. *See* 5 U.S.C. § 553.

[2] 12 GHz NPRM, ¶ 2.

In its prior filings, AT&T has explained why two-way, terrestrial mobile services—such as those proposed by the MVDDS 5G Coalition ("Coalition") in the 12 GHz band—are fundamentally incompatible with satellite services.[3] This overarching principle is well-established, and neither the Coalition nor its individual members have provided a legitimate or sufficiently comprehensive technical analysis to otherwise demonstrate that the proposed new terrestrial mobile services could generally coexist with DBS.[4] For the Commission to ignore these facts and upend the carefully-tailored coexistence framework in the 12 GHz band would be unlawful and bad public policy.

II. THE COMMISSION MUST NOT HARM INCUMBENT DBS SERVICES OR THEIR CUSTOMERS.

A. The NPRM Appropriately Places the Focus of the Proceeding on Protecting Incumbent Services.

The Commission has unequivocally—and repeatedly—stated that this proceeding is "focused on protecting incumbent licensees . . .from harmful interference."[5] This is the correct approach. Incumbent DBS providers have successfully deployed their services nationwide—serving millions of existing customers and representing billions of dollars of investment—

---

[3] *See*, *e.g.*, Letter from Michael P. Goggin, Assistant Vice President, Senior Legal Counsel, AT&T Services, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, Docket No. RM-11768, at 2 (Oct. 16, 2020) ("October 2020 AT&T Ex Parte"); Letter from Michael P. Goggin, Assistant Vice President, Senior Legal Counsel, AT&T Services, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, Docket No. RM-11768, at 2-5 (Aug. 6, 2020) ("August 2020 AT&T Ex Parte"); *see also* AT&T Services, Inc., Opposition to Petition for Rulemaking, RM-11768 (filed June 8, 2018); AT&T Services, Inc., Reply Statement Opposing Petition for Rulemaking, RM-11768 (filed June 23, 2018).

[4] Furthermore, even if the new flexible use mobile allocation they propose were at all compatible with DBS services, any deployments would of necessity be so restricted as to render it largely useless. The Coalition's proposal should be seen for what it is—a long term speculator's gambit.

[5] 12 GHz NPRM, ¶ 31; *see also* ¶¶ 2, 17, 19, 20, 32, 38, 42, 45.

meriting continued protection from harmful interference. As one of the largest multichannel video programming distributors ("MVPD"), and the largest DBS service provider, in the United States,[6] AT&T has made substantial investments in its satellite network and related ground infrastructure to provide service in this band to millions of subscribers.[7] This proceeding rightfully recognizes the need to protect such investments and reasonable expectations for growth of incumbent services in the 12 GHz band.

The Commission has long recognized the public interest benefits that incumbent DBS services provide to millions of subscribers, such that it requires the other two co-primary services in the 12 GHz band—space-to-Earth non-geostationary satellite orbit Fixed Satellite Service ("NGSO FSS"), and fixed one-way Multi-Channel Video and Data Distribution Service ("MVDDS")—to operate on a non-harmful interference basis with respect to DBS. The Commission spent decades developing and tailoring rules and procedures to prevent MVDDS and NGSO FSS services from interfering with the long-standing and widely-deployed DBS services, or with each other.[8] Even this coexistence framework is relatively untested: NGSO

---

[6] *See* Leichtman Research Group, Research Notes, at 6 (4Q 2020), https://www.leichtmanresearch.com/wp-content/uploads/2021/01/LRG-Research-Notes-4Q-2020.pdf.

[7] *Id*. DIRECTV is authorized to use the 12 GHz band for its DBS video programming downlinks at multiple orbital locations, making the 12 GHz band critical spectrum for AT&T's provision and customers' reception of service throughout the United States. *See Policy Branch Information; Actions Taken*, Report No. SAT-01402, File No. SAT-MOD-20190508-00036 (July 19, 2019) (Public Notice); *Policy Branch Information; Actions Taken*, Report No. SAT-01409, File No. SAT-MOD-20190703-00054 (Aug. 16, 2019) (Public Notice); *Policy Branch Information; Actions Taken*, Report No. SAT-01118, File No. SAT-MOD-20150918-00064 (Nov. 13, 2015) (Public Notice); *Policy Branch Information; Actions Taken*, Report No. SAT-01508, File No. SAT-MOD-20200810-00094 (Oct. 20, 2020) (Public Notice).

[8] *See*, *e.g.*, *Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range*, Memorandum Opinion and Order and Second Report and Order, 17 FCC Rcd 9614, ¶ 137 (2002) ("Second Report and Order").

FSS services utilizing the 12 GHz band are still in their launch phase,[9] and, as the Commission recognizes, only minimal services have been deployed by MVDDS licensees.[10] Due to the scarce deployment by other co-primary services in the 12 GHz band to date, it remains unclear whether the existing framework protections will be sufficient to protect incumbent DBS operations if and when these NGSO FSS complete the buildout of their as-planned networks. [11] In this landscape, it is clear that the Commission prioritizes protection of incumbent services for good reason. Millions of households and businesses rely on DBS services to receive video programming, which have long been a key catalyst for competition in the national pay TV market. Therefore, any consideration of a new or expanded service in the 12 GHz band must

---

[9] *See*, *e.g.*, Stephen Clark, *First six OneWeb satellites launched from French Guiana*, Spaceflight Now (Feb. 27, 2019), https://spaceflightnow.com/2019/02/27/first-six-oneweb-satellites-launched-from-french-guiana/; Stephen Clark, *SpaceX's first 60 Starlink broadband satellites deployed in orbit*, Spaceflight Now (May 24, 2019), https://spaceflightnow.com/2019/05/24/spacexs-first-60-starlink-broadband-satellites-deployed-in-orbit/.

[10] 12 GHz NPRM, ¶ 40 ("We are aware of only one current wide-area commercial MVDDS deployment, in Albuquerque, New Mexico. Apart from the showing for the Albuquerque license, other licensees report meeting the Commission's substantial service construction requirement for each license based on the safe harbor for MVDDS.") (internal citations omitted). Indeed, several buildout showings for MVDDS licenses describe services that are confined to extremely small areas notwithstanding the fact that MVDDS licenses are issued over large DMA license areas. For example, the entirety of the buildout for call sign WQAR719 (which covers a market overlapping portions of Kansas and Nebraska) is contained within a single building, which houses a motor sports dealer and laser tag gym. *See* ULS File No. 0008754233. Similarly, the entirety of the buildout for call sign WQAR489 (which covers the Quincy-Hannibal-Keokuk market area) is contained in the parking lot of a single Bad Boy Mowers store in Quincy, IL. *See* ULS File No. 0008755699. Such sparse deployments cannot possibly support a definitive conclusion that robust MVDDS services and DBS services can coexist even under the existing framework.

[11] It is not yet clear that NGSO systems can operate as planned—or as disclosed—without causing interference to DBS. *See*, *e.g.*, Letter from Jeffrey Blum, Executive Vice President, External and Legislative Affairs, DISH Network LLC, to Marlene H. Dortch, Secretary, Federal Communications Commission, Docket No. RM-11768, at 3-4 (Nov. 12, 2020).

sufficiently account for the intensive and longstanding use of this band for the provision of DBS services and its future growth therein.

With protection of incumbent services established as the first priority, the Commission will then consider "whether, and to what extent" two-way, mobile operations and the associated proposal to eliminate EIRP limits, would "substantially redefine the scope of DBS operators' obligations and potential burdens under the current regime."[12] Since 2016, the Coalition and its constituent companies have sought to have the Commission add a new allocation to the 12 GHz band that would convert their limited, one-way, low power, fixed broadcast rights to new flexible use, two-way mobile licenses.[13] As AT&T and other commenters have consistently and repeatedly noted, such action would obliterate the carefully tailored interference protection framework in the band, severely threaten to undermine the services provided by DBS licensees, and harm millions of DBS subscribers (as well as incipient NGSO services) [14] all to unjustly enrich a single class of incumbents—who have invested the least and have provided little to no service in the band. The Coalition—or any other proponent of a co-primary terrestrial mobile service in the 12 GHz band—bears the burden of proving that such a service will not interfere with DBS receivers. They have not met this burden. Indeed, these proponents must overcome a

---

[12] 12 GHz NPRM, ¶ 23.

[13] Petition for Rulemaking of MVDDS 5G Coalition to Permit MVDDS Use of the 12.2-12.7 GHz Band for Two-Way Mobile Broadband Service, Docket No. RM-11768 (filed Apr. 26, 2016).

[14] *See* Letter from WorldVu Satellites Limited, *et al.*, to Marlene H. Dortch, Secretary, Federal Communications Commission, Docket No. RM-11768, at 2 (Oct. 20, 2020); October 2020 AT&T Ex Parte; August 2020 AT&T Ex Parte; Letter from Michael P. Goggin, Assistant Vice President, Senior Legal Counsel, AT&T Services, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, Docket No. RM-11768 (June 14, 2018) ("2018 AT&T Ex Parte").

robust historical record demonstrating that terrestrial mobile services and satellite services cannot coexist on a co-channel basis.

History demonstrates the difficulty of the task facing the Coalition and its allies. The current 12 GHz band sharing environment, including the limitations rightfully placed upon NGSO and MVDDS operations, reflects the Commission's considered acknowledgement of the measures necessary to protect incumbent DBS services from interference. For example, in 2002, the Commission notably declined to authorize terrestrial two-way services in the 12 GHz band even on a fixed basis. Instead, it restricted MVDDS to low-power, one-way, "stationary services that use highly directional fixed antennas" with mandated deployment restrictions aimed at protecting DBS operations.[15] In declining to extend MVDDS to two-way services, the Commission stated that "without relocating the upstream path[, two-way services in the band] would significantly raise the potential for instances of interference among the operations."[16]

The Commission has made clear that the burden of proof lies exclusively with the Coalition as proponents of this expanded terrestrial use, and the extensive record in this proceeding lays bare their failure to meet it. Indeed, there is ample technical and common-sense evidence that the coexistence framework the Coalition seeks is not possible.

B. The Record Demonstrates That the Services Contemplated by the Coalition Cannot Coexist With Incumbent Services in the 12 GHz Band.

There is already an extensive record in this proceeding, as well as a historical record that led to the adoption of the *Second Report and Order*, establishing that two-way terrestrial services

---

[15] *See* 47 C.F.R. § 101.1440.

[16] Second Report and Order, ¶ 137. In this case, the Coalition proposes *mobile* two-way services, meaning the upstream transmissions would even more "significantly raise the potential for instances of interference." *Id*.

cannot coexist with DBS receivers in the 12 GHz band. This record clearly establishes a fundamental incompatibility between co-frequency two-way terrestrial fixed services and DBS, as well as other types of satellite receivers.[17] This incompatibility has also been demonstrated to extend to adjacent-channel operations.[18] The record also reflects that harmful interference caused by such incompatible operations worsens where the terrestrial service is mobile, as it increases the likelihood that the terrestrial transmitters will be operating in closer proximity to a satellite receiver, as well as in more problematic geometries.[19]

This evidence of incapability between terrestrial and satellite receivers is not new, nor is it unique to the 12 GHz band. The Commission has noted this incompatibility in numerous past proceedings, including when allocating the AWS-4 band[20] and where it elected to permit mobile satellite service ("MSS") licensees to operate ancillary terrestrial component operations was

---

[17] *See*, *e.g.*, *id*., ¶ 28 (reflecting that in the early 1980s, the Commission relocated two-way terrestrial links on the basis that they would be incompatible with ubiquitously deployed DBS operations and therefore, in 2002, the Commission would only authorize low-power, one-way fixed links in order to "minimize [the] impact on ubiquitous [DBS] receivers.").

[18] *See*, *e.g.*, *id*., ¶ 192 (discussing the decision to limit the effective isotropic radiated power of MVDDS services in order to prevent interference into Cable Television Relay Service ("CARS") and Broadcast Auxiliary Service ("BAS") operations, as well as satellite networks, in the adjacent bands).

[19] August 2020 AT&T Ex Parte, at 3; 2018 AT&T Ex Parte, at 3.

[20] *See*, *e.g.*, *Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands, Report and Order and Order of Proposed Modification*, 27 FCC Rcd 16102, ¶ 181 (2012) ("AWS-4 Report and Order") ("The Commission previously determined that separately controlled MSS and terrestrial operations (*i.e.*, two ubiquitous mobile services) in the same band would be impractical because the parties would not be able to overcome the technical hurdles to reach a workable sharing arrangement. . . . suggest[ing] that the public interest would be best served by modifying the 2 GHz MSS license to allow the satellite licensee to operate terrestrial services, rather than make the band available for terrestrial licenses under a sharing regime with MSS. . . .[T]he earlier Commission conclusion regarding the impracticality of allowing same spectrum, different operator use of the AWS-4 spectrum remains valid.").

preferable to separate-operator sharing.[21] The Commission has often been blunt in addressing this fundamental incompatibility, stating that "same-band, separate operator sharing is impractical and ill-advised."[22]

Just last year, the Commission reaffirmed this basic principle in the C-band proceeding, which also contemplated introducing mobile, terrestrial use into a long-standing satellite band. Despite some calls to the contrary, the Commission determined that co-channel sharing was not viable and instead mandated a multi-year clearing of satellite services from the lower 300 MHz portion of the band to accommodate those mobile services.[23]

In 2016, the Coalition filed several studies purporting to demonstrate the compatibility of two-way terrestrial mobile services and DBS services in the same spectrum. As AT&T explained three years ago, however, these studies made inaccurate baseline assumptions regarding the nature of deployments and relied upon cherry-picked use cases that are not representative of real-world deployments.[24] Despite claims by the Coalition and other MVDDS licensees that coexistence between DBS and terrestrial use is feasible,[25] they have failed to

---

[21] *Flexibility for Delivery of Communications by Mobile Satellite Service Providers,* Report and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 1962, ¶ 79 (2003).

[22] *Id*., ¶ 49. While the FCC has acknowledged that there is a rare exception to this fundamental principle—where management of interference may be possible when the same entity controls both the satellite and terrestrial operations—that exception does not apply to the 12 GHz band. No single entity controls all the satellite and terrestrial operations. While DISH may, itself, hold both MVDDS and DBS licenses, there are in fact, multiple MVDDS licensees and competing DBS providers, thereby eliminating the exception. *See* AWS-4 Report and Order, ¶ 181.

[23] *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Report and Order and Order of Proposed Modification, 35 FCC Rcd 2343 (2020).

[24] October 2020 AT&T Ex Parte, at 2; 2018 AT&T Ex Parte. To date, the Coalition and its members have not addressed AT&T's rebuttal in any meaningful way.

[25] *See*, *e.g.*, Letter from Trey Hanbury, Counsel to RS Access, LLC, to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 20-443 (filed Feb. 8, 2021).

provide a technical demonstration in the record to date that would establish the ability of a new terrestrial two-way or mobile service to share spectrum without causing interference to DBS.[26]

To the extent coexistence among the existing three co-primary services and a new, two-way, mobile service were technically feasible (at a theoretical level), the practical steps that would need to be taken to ensure interference-free operations are not practicable in the 12 GHz band.[27] This becomes readily apparent when one looks at the measures the Commission has taken to enable coexistence among services in other bands. When applied to the 12 GHz band these tools do not achieve the desired result:

a) *Spectral Separation:* The three co-primary services each hold non-exclusive rights to use all 500 MHz of the 12 GHz band. Without a significant modification to the rights of at least one co-primary service in the 12 GHz band, spectral separation would be impossible absent relocation of the incumbent services.

b) *Exclusion or Coordination Zones:* Satellite licenses—DBS and NGSO—are authorized on a nationwide basis. Millions of DBS (and some NGSO) receivers have accordingly been deployed on a ubiquitous basis throughout the country, and are added, removed, and relocated on a daily basis. It is impractical, if not impossible, to establish physical protection zones to ensure that terrestrial mobile does not interfere with these satellite services.

c) *Repacking:* Recently employed in the C-band proceeding, repacking 12 GHz incumbent services into less spectrum would be significantly more complicated. Clearing the lower 300 MHz of C-band spectrum required registration and installation of filters for *thousands* of earth stations, and required multiple years and billions of dollars. It also required the purchase, launch, and operation of additional satellites and satellite operators' repacking existing customer capacity into the C-band spectrum remaining for satellite services. This remains an incredibly complicated effort when applied to the thousands of incumbent earth stations in the C Band; incumbent earth stations in the 12 GHz band number in the *millions*.

---

[26] *See*, *e.g.*, Letter from WorldVu Satellites Limited *et. al.*, to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 20-443 (Mar. 12, 2021) (requesting that RS Access "promptly produce" the technical analyses that underpin its recent *ex parte* submissions).

[27] August 2020 AT&T Ex Parte, at 4; 12 GHz NPRM, ¶ 41.

In the absence of a sharing regime that could enable the meaningful deployment of two-way, mobile service while protecting incumbent services from interference, the Commission is left with two options: (1) uphold the existing, carefully balanced framework with co-primary sharing among three diverse services, or (2) clear all incumbent services from the 12 GHz band with adequate compensation and auction greenfield terrestrial spectrum rights in the band.

III. CONCLUSION.

AT&T respectfully urges the Commission to protect incumbent DBS services in the 12 GHz band from harmful interference consistent with these comments.

Respectfully submitted,

By: *Jessica B. Lyons*

AT&T SERVICES, INC.

Jessica B. Lyons
Michael P. Goggin
David J. Chorzempa
David L. Lawson

AT&T Services, Inc.
1120 20th Street NW, Suite 1000
Washington, DC 20036

May 7, 2021